

National financing as the foundation for European cooperation in research infrastructures



Agenda

1. The importance of European cooperation on RIs
2. National financing as the foundation for European cooperation
3. The contribution from the RCNs funding scheme



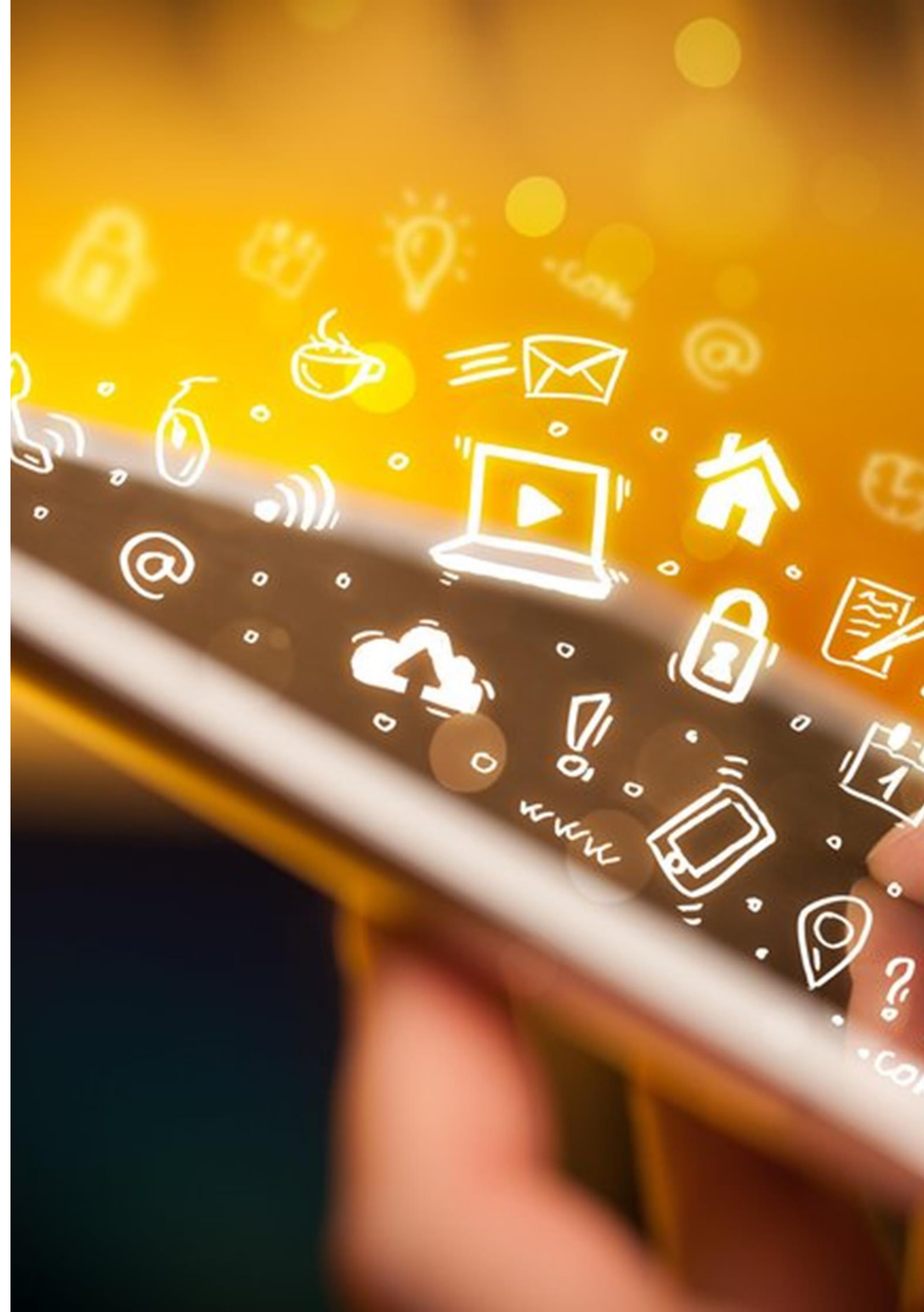
The importance of European cooperation on RIs





The importance of high quality Research Infrastructures (RIs)

- Necessary to conduct **research and innovation at the international forefront**
- Crucial for offering **teaching at the forefront** of research and inspire talented students to pursue careers in research
- Their use, and often also their operation and funding, is **shared by several research groups, institutions or industries** - also across national borders
- RIs play an important role **in collecting, processing, storing and providing access to the scientific data in line with the FAIR-principles**
- RIs that have a strong **international** dimension, including those based on interconnected networks of RIs, benefit from **exchanging experiences and good practises.**





Norwegian participation in international RIs

- Gives Norwegian researchers access to research infrastructures and an opportunity to take part in innovative and resource-intensive research that would not otherwise be possible with national funding alone
- Norwegian scientists have participated actively in international research organisations for many decades
- All Norwegian memberships established after 2010 have been for infrastructures on the ESFRI Roadmap

Project	Full name	Status
CERN	<u>European Organization for Nuclear Research</u>	Member since 1954
EMBL/EMBC	<u>European Molecular Biology Laboratory</u> <u>The European Molecular Biology Conference</u>	Member since 1985
ESRF	<u>European Synchrotron Radiation Facility</u>	Member since 1989
IARC	<u>International Agency for Research on Cancer</u>	Member since 1987
ESA	<u>European Space Agency</u>	Member since 1987

Development in cooperation on funding of RIs

- The 1990s saw a rapid development of scientific methods and equipment in most areas of science as well as an increasing need to pool and organise human and financial resources to run and use them effectively.
- The establishment of ESFRI in 2002 and the development of a pan-european Roadmap of RIs (2006) stimulated most European countries to initiate work on national roadmaps and new funding schemes for RIs
- A Norwegian Roadmap and funding scheme for research infrastructures was launched in 2008



The success of sequencing the human genome in 2003 would not have happened without a focus on the tools and infrastructure needed, on their development, and on financing of large-scale projects.



National financing as the foundation for European cooperation

Building a European RI-landscape

- Through cooperation the **countries can contribute to the development of a landscape of RIs** that collectively offers different services – the **principle of *variable geometry****
- Sustained political ownership and commitment **at all levels** is needed for progress towards a functioning RI ecosystem



**Variable geometry* is a principle in regional integration whereby some community members can move faster than others on some matters. ESFRI has developed it to a key principle in its mandate and procedural guidelines since its creation in 2002 to allow groups of EU Member States and Associated Countries to independently pursue common RI initiatives of their interest

Required at a national level

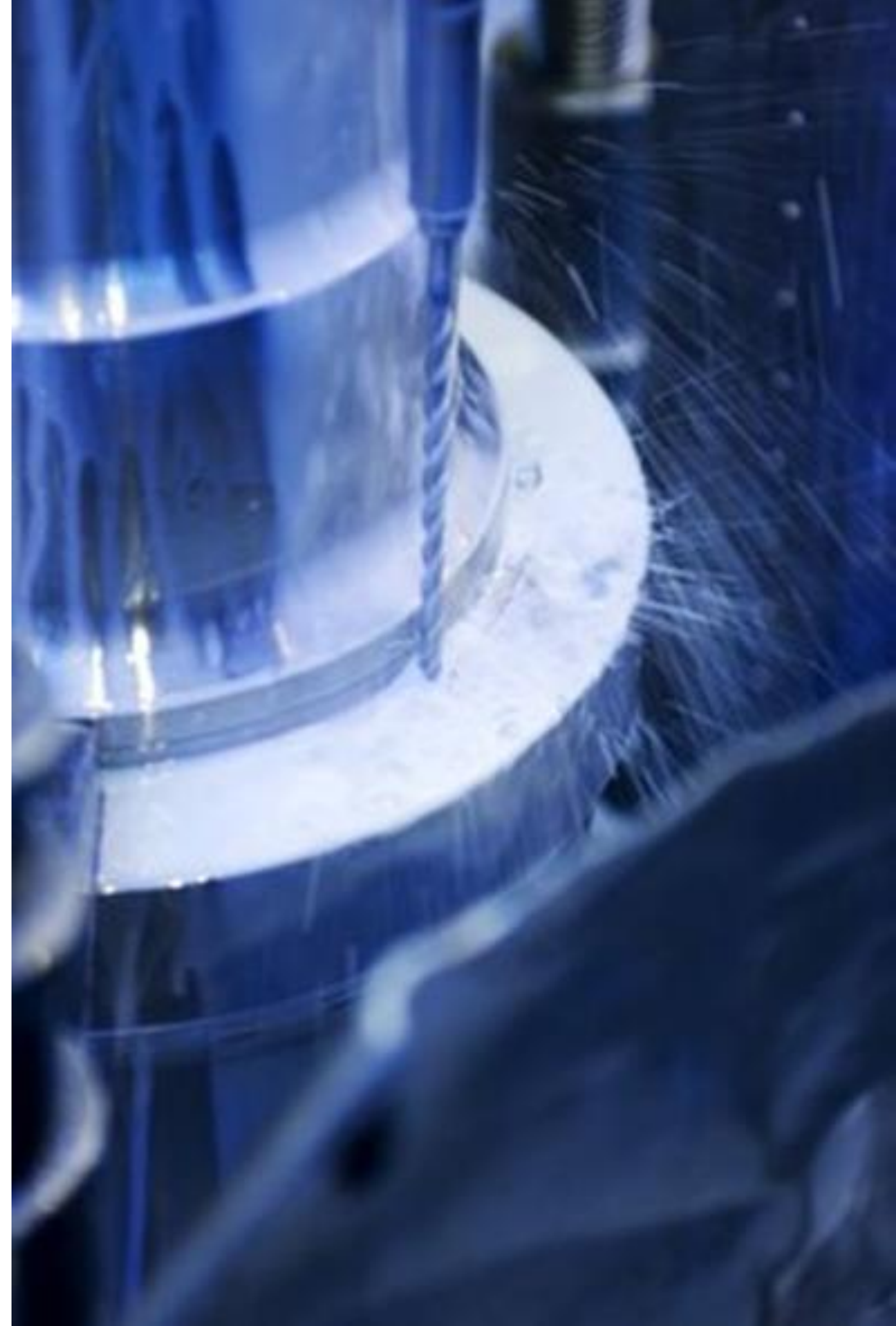
- **National priorities** and mechanisms for prioritization
- National funders must have a **budget** that can take care of research needs within the national priorities
- The financing must be arranged with the necessary **flexibility** to enable financing of all types/categories of infrastructure
- Well functioning **decision-making processes**
- Clear **distribution of responsibility** between decision makers





Considerations to be made by funders-I: What are the needs?

- The infrastructures must support the development of **prioritised research areas of national importance**
- The **quality and uniqueness** of the infrastructure
 - The extent to which the infrastructure is "state-of-the-art" – the best technological solutions are being chosen;
 - How the infrastructure is aligned with the landscape of existing, relevant infrastructures,
 - How the infrastructure will respond to the research's needs in the future - the need for new services arises when existing infrastructures do not deliver on this.
- Given the countries' economic challenges, one should not only think nationally when making these assessments, but **consider if needs can be met through international participation** - e.g. ESFRI





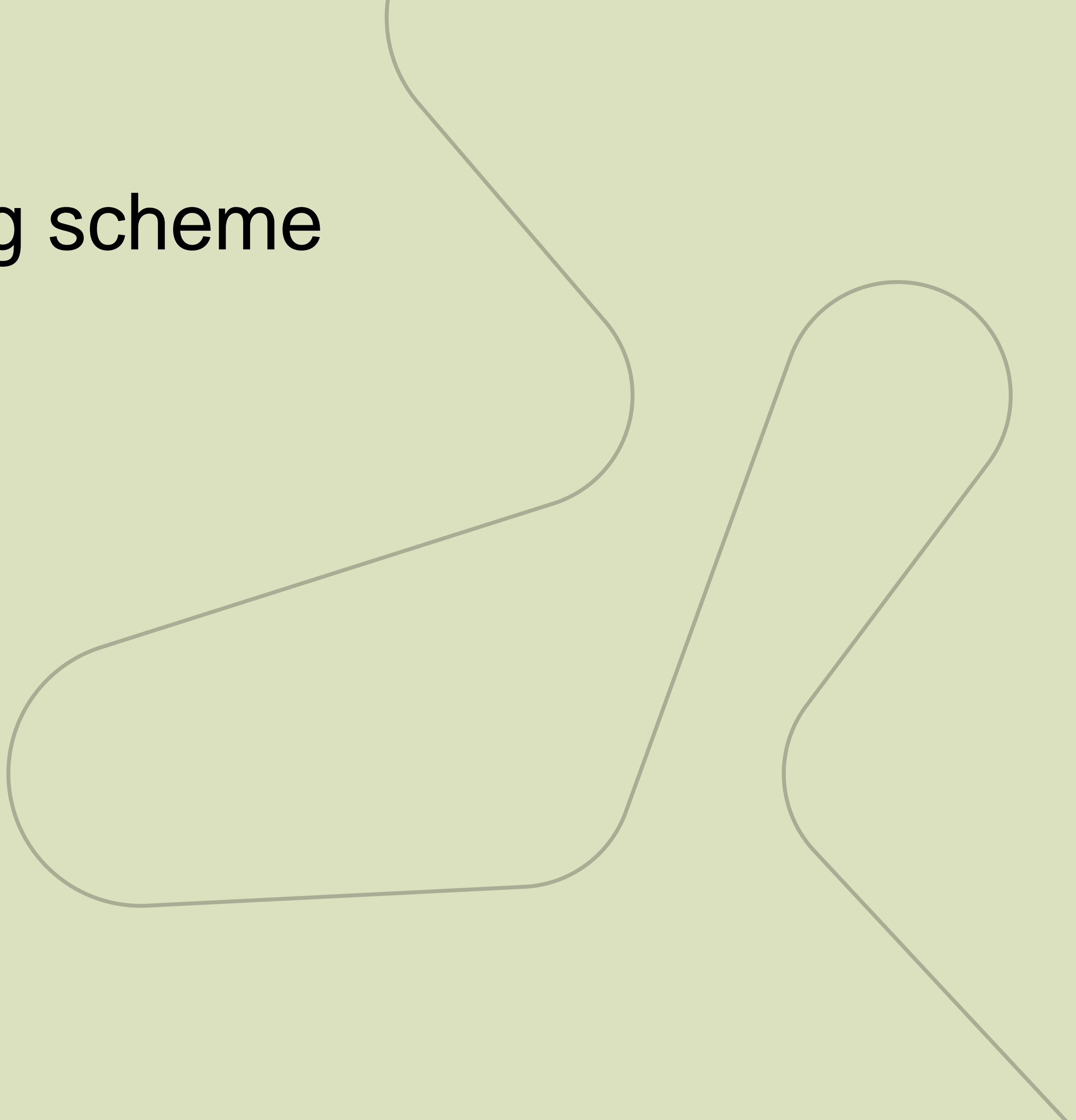
Considerations to be made by funders-II: Plans for sustainable operation

- Plans for the establishment of an RI must include
 - **plans for operation and utilization** and
 - **long term commitments** and **models for how costs are to be covered** - preferably as a joint layer between owners/operators and users - not one size fits all
- **Well-trained personnel** must be a part of the RIs
 - both **technical and administrative**
 - to ensure the delivery of good services that **respond to the users' needs**
 - those who operate an infrastructure must see themselves as **service providers**





The RCNs funding scheme



The RCNs funding scheme - decision making

- Distribution of decision-making:
 - **Institutions:** Basic equipment
 - **RCN:** Research Infrastructure of national importance
2-200 million NOK.
 - **Ministries:** Investments >200 million NOK
and participation in international RIs
- The RCNs funding scheme also provides funding for Norwegian participation in international cooperation on research infrastructure, including Norwegian participation in ESFRI projects
- Decisions regarding long-term commitments in ESFRI-projects will be taken at the ministerial level based on funding/recommendations from RCN obtained through these competitive calls



The RCN funding scheme - evaluation process

- Open **calls** and projects selection is based on
 - **scientific criteria** (evaluated by international experts)
 - **strategic criteria** (evaluated by the RCN administration)
- The assessment of grant proposals leads to
 - selection of projects for funding
 - selection of projects for inclusion on the Norwegian Roadmap for RIs
 - recommendations to the government on participation in new ESFRI-projects (or other international infrastructures)



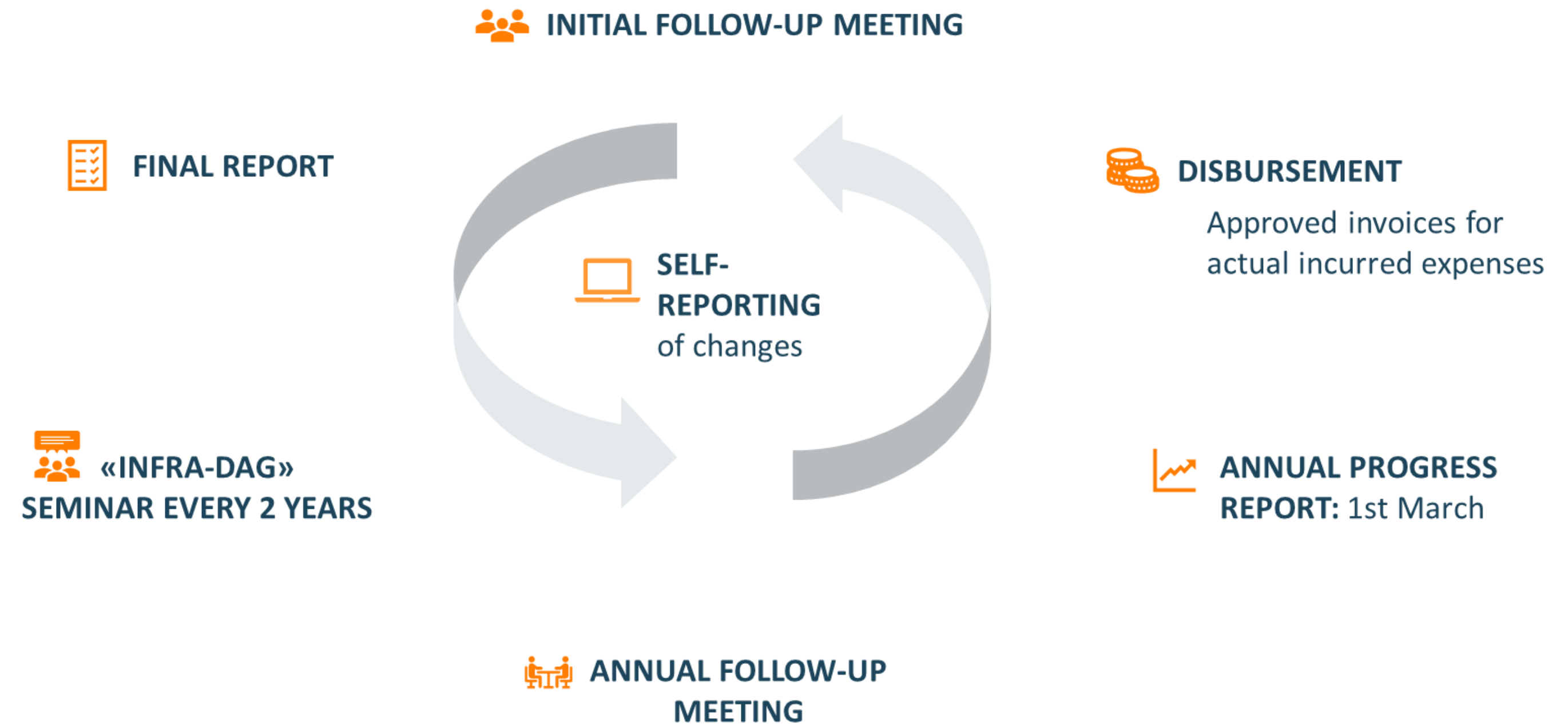
Follow-up of the funded RIs

Objectives:

- Identify problems challenges and supporting them to take action
- Gathering information on the performance, outputs and impacts

Key elements:

- Progress in the investments / establishment
- Financial status and economic sustainability
- Accessibility
- Overview of users and utilisation
- Data management and open access
- National and international collaboration
- Adherence to State Aid regulations



To help plan for sustainable operation

TDI-model:

- Calculating the total costs when receiving external funding for research
(**T**ime **D**irect and **I**ndirect costs)
- Developed by and for the board of The Norwegian Association of Higher Education Institutions (UHR)
- Implemented in almost all higher education institutions in Norway
- Applications for funding of RIs to RCN must visualize the total budget related to establishment and operation of the infrastructure separately
 - ✓ Equipment
 - ✓ Use of the infrastructure
 - ✓ Personal costs
 - ✓ Other support activities – Indirect costs

Direct costs

Status for RCNs funding of participation in European RIs



Norway is host for CESSDA ERIC, ECCSEL ERIC and SIOS AS



Current status is that Norway is a committed member in 15 ESFRI-infrastructures hosted by Member States+UK



Total allocation from INFRASTRUKTUR to international research infrastructures is 2136,785 MNOK incl. the 15 Norwegian nodes



Total allocation to RIs from INFRASTRUKTUR is 7400 MNOK



Open ended call in INFRASTRUKTUR for Norwegian participation in the planning of ESFRI Roadmap Projects and for institutions that seek membership in EOSC

Empowering ideas for a better world



The Research
Council of Norway